

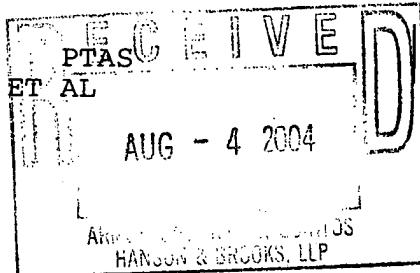


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JULY 29, 2004

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\*102655979A\*

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TITLE: DATA STRUCTURE OF FEATURE GUIDANCE INFORMATION, RECORDING MEDIUM STORING FEATURE GUIDANCE INFORMATION, NAVIGATION DEVICE, NAVIGATION SYSTEM, NAVIGATION METHOD, NAVIGATION PROGRAM AND RECORDING MEDIUM STORING THE NAVIGATION PROGRAM

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31,898  
 Registration No.



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(12) **United States Patent**  
**Miyahara**(10) **Patent No.:** US 7,451,040 B2  
(45) **Date of Patent:** Nov. 11, 2008(54) **DATA STRUCTURE OF FEATURE GUIDANCE INFORMATION, RECORDING MEDIUM STORING FEATURE GUIDANCE INFORMATION, NAVIGATION DEVICE, NAVIGATION SYSTEM, NAVIGATION METHOD, NAVIGATION PROGRAM AND RECORDING MEDIUM STORING THE NAVIGATION PROGRAM**6,023,655 A \* 2/2000 Nomura ..... 701/208  
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(75) Inventor: Hiroshi Miyahara, Tokyo (JP)

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(73) Assignee: Increment Corporation, Tokyo (JP)Notice: As of -- INCREMENT P CORPORATION, TOKYO (JP) --  
Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 123 days.

(Continued)

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**G01C 21/26** (2006.01)(52) **U.S. Cl.** ..... 701/200(58) **Field of Classification Search** ..... 701/200-226;  
340/998, 990, 995.1-995.28

See application file for complete search history.

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A feature guidance information that provides guidance on a feature has a data structure where a unique information representing a feature position and a guidance position are associated with respective sub-areas so that each sub-area includes at most one of the feature and the guidance position to represent the feature or the guidance position. When it is recognized that a vehicle reaches a position indicated by the unique mesh information of the guidance position with respect to a current position of the vehicle, guidance on the feature corresponding to the guidance position is provided. Thus, an amount of information, load for sending/receiving data and processing can be largely decreased compared to that coordinates are used for representing the feature position and the guidance position of the feature guidance information, thereby providing smooth navigation.

6 Claims, 10 Drawing Sheets

